



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/479,245	01/07/2000	ETSURO KISHI	684.2954	2818

5514 7590 10/29/2003

FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

LAO, LUN YI

ART UNIT	PAPER NUMBER
----------	--------------

2673

DATE MAILED: 10/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/479,245

Applicant(s)

KISHI ET AL.

Examiner

Lao Y Lun

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 7-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 13 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 2673

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3, 5, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jacobson et al(6,241,921) in view of Mochizuki et al(5,652,079).

As claims 1, 3, 5, 13 and 14, Jacobson et al teach an electrophoretic display device comprising two electrodes(120, 125 or 140, 145); fixing surfaces each associated with one of the two electrodes or charged films(8,9)(an electrophoretic display(see figures 1B, 1D, 1E; column 1, lines 40-44; column 7, lines 31-38 and column 8, lines 28-34); an electrophoretic layer disposed in a cell and having an insulating liquid(dielectric liquid medium) and a colored charged particles disposed in the electrophoretic layer and voltage supply means for applying a voltage between the electrodes(120, 125 or 140, 145)(see figures 1B, 1D, 1E; column 1, lines 30-44; . When a voltage is applied between the electrodes(8,9), the colored charged particles(6) is provided with an adhesive layer(polymer coated) allowing repetitive attachment thereto and

Art Unit: 2673

separation therefrom of the color charged particles(205)(see figure 2B; column 1, lines 30-39; column 4; lines 54-58 and column 8, lines 56-67).

Jacobson et al fails to disclose the adhesive layer have a glass transition temperature of -35°C to $+35^{\circ}\text{C}$.

Mochizuki et al a particle having an adhesive layer(resin or polymer or copolymer) having low glass transition temperature(see column 10, lines 30-37). It would have been obvious to have modified Jacobson et al with the teaching of Mochizuki et al, since the particles of Mochizuki et al and Jacobson et al could be used in a toner or an electrophoretic display(see Mochizuki's column 1, lines 39-47 and Jacobson's column 1, lines 16-23 and lines 30-39); and their device are operated around room temperature(see Mochizuki's column 10, lines 30-38 and Jacobson's column 4, lines 32-50).

As to claim 5, Jacobson et al teach two electrodes (215, 220) are oppositely disposed in the cell structure so as to allow vertical movement of colored charged particles(205) between the electrodes(215, 220)(see figure 2B; column 1, lines 30-30-38 and column 8, lines 56-67).

3. Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jacobson et al(6,241,921) in view of Mochizuki et al(5,652,079) and Albert et al(6,172,798).

As to claim 4, Jacobson et al modified fail to disclose the insulating liquid has a volumetric resistivity of at least 10^{12} ohm.cm.

Albert et al teach an electrophoretic display having an insulating liquid(17) with a volumetric resistivity about 10^{15} ohm.cm.(see figure 1 and column 15, lines 45-53). It would have

Art Unit: 2673

been obvious to have modified Jacobson et al with the teaching of Albert et al, since displays of Jacobson et al and Albert et al both are electrophoretic displays have insulating liquid(see Jacobson's column 1, lines 30-38 and Albert's insulating liquid with 10^{15} ohm.cm. should be suitable for Jacobson's electrophoretic display.

As to claim 6, Jacobson et al(6,241,921) as modified fail to place two electrodes(8,9) on a same plane so to allow the colored charged particles moving in an horizontal direction.

Albert et al teach an electrophoretic display having two electrodes(30, 40) mounted on the same plane(an horizontal plane)(see figures 1A, 1B and 3A-3D). When a voltage is applied to the two electrodes(30, 40), particles(50) are moving in an horizontal direction(see figures 1A, 1B and column 9, lines 27-61). It would have been obvious to have modified Jacobson et al as modified with the teaching of Albert et al, since such a modification would have involved a mere changed in location of an electrodes and a changed location of an electrodes is generally recognized as being within the level of ordinary skill in the art.

Response to Arguments

4. Applicant's arguments filed on September 9, 2003 have been fully considered but they are not persuasive.

Applicants argues that Jacobson et al does not teach particles having adhesive properties and the surface adhesive layer allows for repetitive attachment and separation from fixing

Art Unit: 2673

surfaces on pages 7-8. The examiner disagrees with that since Jacobson et al teach particles coating with polymer to confer desired charge so as to repetitively attach onto and separate from fixing surfaces(140, 145) which have positive and negative charge alternatively(see figures 1D, 1E; column 2, lines 9-11 and column 8, lines 16-34).

Applicants argues that Mochizuki et al do not teach the particles same as applicants' and does not teach particles undergo repetitive attachment onto and separation from fixing surfaces on page 8. However, Jacobson teach such particles and particles undergo repetitive attachment onto and separation from fixing surfaces (140, 145) which have positive and negative charge alternatively(see figures 1D, 1E; column 2, lines 9-11 and column 8, lines 16-34).

Applicants argues Jacobson, Mochizuki and Albert do not teach the surface adhesive layer having polymer with a glass transition temperature(T_g) of -35°C to $+35^{\circ}\text{C}$ on page 9. The examiner disagrees with that since Mochizuki teaches particles with polymer with a glass transition temperature(T_g) less than $+30^{\circ}\text{C}$ (see column 10, lines 30-37). It would have been obvious to have modified Jacobson with the teaching of Mochizuki, since the particles of Mochizuki et al and Jacobson et al could be used in a toner or an electrophoretic display(see Mochizuki's column 1, lines 39-47 and Jacobson's column 1, lines 16-23 and lines 30-39); their device are operated around room temperature(see Mochizuki's column 10, lines 30-38 and Jacobson's column 4, lines 32-50) and the glass transition temperatures(T_g) can be adjusted by changing the composition of the copolymer(see Mochizuki's column 10, lines 34-37).

Art Unit: 2673

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lun-yi, Lao whose telephone number is (703) 305-4873.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala, can be reached at (703) 305-4938.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

Application/Control Number: 09/479,425

Page 7

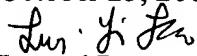
Art Unit: 2673

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

October 25, 2003


Lun-yi Lao
Primary Examiner